

**ABSTRACT**

A displacer spring and displacer/spring assembly for use in an FPSE and with improved wear characteristics. One embodiment calls for the use of a single  
5 machined spring operating alternately in a tension mode and a compression mode and wherein the operating frequency of displacer movement can be controlled therewith to a desired resonant frequency. The machined spring of the present invention provides enhanced structural accuracy which, in turn, leads to the elimination of lateral and side loads as compared to prior art wire-wound helical  
10 springs.